

Thresholds/Monitoring

How Age Structure and Wind Influence Carpenterworm Moth Monitoring Traps in Tree Plantations

E.R. Hannon, N.T. Kittelson, and J.J. Brown  
Washington State University Department of Entomology, Pullman, WA

*Keywords:* carpenterworm, *Prionoxystus robiniae*, hybrid poplars, monitoring

*Abstract:* At Potlatch's hybrid poplar plantation, seven of the ten highest monitoring trap locations for male carpenterworm moths (CW) (*Prionoxystus robiniae*) in 2003 were in fields of two-year-old trees. Given CW is thought to primarily attack older trees we sought to test whether high counts in new stands were real or, alternatively, an artifact due to immigrating CW from older, adjacent stands. We tested this hypothesis in 2004 at three study sites, each containing paired new and old aged fields so that the older stands were downwind from the new. In each field 40 traps were placed at an even density of 2.5 traps/ha. Our results indicate males in new stands originated from adjacent older, infested stands. Concurrent to this main study, we monitored female counts at light traps within these fields. The light traps picked up females in both new and old stands, with a much higher total count in the older trees than the new trees (295 to 7, respectively). We tested whether the seven females caught at the light trap could have dispersed the 0.4 km from the older stand to the light trap and determined they could. Our study indicates that 1) high male CW trap counts in new fields may be an artifact, and thus should be viewed within the context of both age and location; and 2) while it is unlikely that the moths originated within the stands, this study could not refute this.